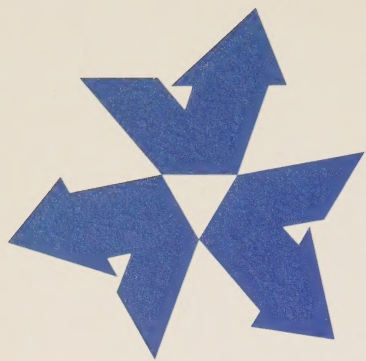


Commissions and committees of inquiry *Government Publications*

COMMITTEE ON GOVERNMENT PRODUCTIVITY

INTERIM REPORT NUMBER FIVE





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*Report to the Executive Council
on Automatic Data Processing*

February, 1972



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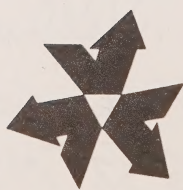


TO HIS HONOUR

THE HONOURABLE MEMBER OF THE LEGISLATIVE ASSEMBLY

FOR THE DISTRICT OF YORK

THE HONOURABLE MEMBER OF THE LEGISLATIVE ASSEMBLY
FOR THE DISTRICT OF YORK
IN THE MATTER OF THE
PRODUCTION OF THE
REPORT OF THE
COMMITTEE ON GOVERNMENT PRODUCTIVITY
ONTARIO
FOR THE YEAR 1977



COMMITTEE ON GOVERNMENT PRODUCTIVITY
Ontario

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SUMMARY

The effective generation and application of information and the sound use and organization of automatic data processing (A.D.P.) technology are basic to the management of government in the 1970's.

Automatic data processing consists of two elements. The first is made up of the computer equipment and personnel required to process data. We call this element *computer services*. The second encompasses the systems analysts and computer programmers who develop computer applications. We call this element *systems and programming services*.

We confined our study to those departments and agencies which draw on the government's consolidated revenue fund. Although our conclusions and recommendations are directed towards them, we believe our findings could be applied to agencies and commissions outside the fund.

Our major objective was to provide a framework in which computer facilities and systems and programming personnel could be efficiently and effectively utilized.

In 1970, the Committee on Government Productivity (C.O.G.P.) reviewed developments in A.D.P. which had taken place in Ontario since 1965, and found that dramatic changes had occurred. Annual costs had escalated from just under \$2 million to almost \$17 million in the five-year period, with a corresponding growth in staff. By 1970, expenditures were increasing at an annual rate of about 20 per cent. More than 1,300 government employees, representing almost 2 per cent of the total, worked in A.D.P. During the same five-year period, the number of computer centres had increased from two to five and the computers in them from two to 14.

In 1970, computer centres existed in the Computer Services Centre, the Health Insurance Registration Board, and in the Departments of Highways, Education and Transport. Most departments had systems and programming units employing from three to 70 people. In such cases, the systems and programming personnel were usually part of the computer branch.

Our study focussed on the needs of the program manager for A.D.P. services rather than on those of the A.D.P. specialist. Throughout, we have emphasized that the computer is not an end in itself. We have tried, therefore, to find means to improve A.D.P. as an effective and efficient tool for the purposes of the program manager.

Five key areas were selected for study:

- ♦ the responsibility and needs of program managers for the use of A.D.P.;

- ♦ the responsibility of the Management Board for the overall use of A.D.P. ⁽¹⁾ ;
- ♦ the relationship between the computer services function and the systems and programming services function;
- ♦ the organization of computer services;
- ♦ the organization of systems and programming services.

In developing our recommendations and organizational guidelines, we adhered to two principles:

- ♦ program managers should be responsible for their use of A.D.P. and should be free to procure services wherever they are most effectively and efficiently provided;
- ♦ competition among A.D.P. suppliers is desirable and should be encouraged.

Proposed Organization

First, we recommend that the Management Board of Cabinet have overall responsibility for the use of A.D.P. in the government.

Second, we recommend that two agencies be established within the Ministry of Revenue & Government Services. One would be responsible for providing computer services; the other would be responsible for supplying systems and programming services. Each agency would be under the direction of its own general manager. Neither agency would necessarily be centralized in the geographical sense.

Third, we recommend consolidation of computer equipment so that economies can be realized. It appears desirable to reduce the number of computer centres to two at this time.

Fourth, we recommend that the systems and programming personnel continue to be located in the ministries. While they would be assigned to ministries under the direction of the program manager, their status would be that of members of the systems and programming agency staff. Systems and programming personnel with special expertise appropriate for a particular ministry would for the most part be assigned to, and contracted to work on a continuing basis in, that ministry. In a few cases, highly specialized systems and programming personnel would remain on the staffs of operating ministries.

1. In keeping with the language of our Third Interim Report, 'Management Board' now replaces 'Treasury Board', the earlier term.

Fifth, we recommend the appointment of one or more systems coordinators for each ministry, to be an integral part of its staff. The coordinators would work closely with the general managers of the service agencies and with program managers in the ministries. The coordinators would not be primarily concerned with technical details, but would serve to bridge the technological gap between program managers and the technical support services. Systems coordinators would be charged with obtaining competitive bids on behalf of the program manager. One of these bids would always be solicited from the appropriate government agency. All service contracts would be designed to cover either a specific project or a specific period.

Sixth, we recommend that program managers have the option of going outside the government for computer services and systems and programming services. The option could be exercised at the ministry's discretion and would probably be used in cases where the required expertise was not available within the government, where the quality of the internal service was inadequate, or where savings could be realized.

Obtaining computer services and systems and programming services on a contract basis either from the public or private sector is, we believe, the most economical and effective way of supplying these services to ministries. The competitive environment provides checks and balances which help to control costs. It would tend to eliminate marginally beneficial computer and systems and programming applications. As a result, overall A.D.P. costs would be reduced.

INTRODUCTION

As part of the inquiry by the Committee on Government Productivity (C.O.G.P.) into the management of the Government of Ontario, certain key resources were selected for study. One of these was automatic data processing (A.D.P.).

Computers have been in commercial use for less than 20 years. During that time, they have evolved through three generations of increasingly elaborate and powerful equipment. At the same time, it has become clear that some enterprises, public and private, are difficult to manage without them. The volume of information required for administration and decision-making is sometimes so great that it is beyond the ability of human beings to organize into any useful and understandable form without a computer's help.

It is not surprising, therefore, that until recently enterprises have been more concerned with the acquisition and immediate use of computer equipment than with its effective management. We are beginning to see that computers today are still too often used as giant bookkeeping machines. Their potential as an aid to decision-making is not fully exploited, nor are they managed for optimum productivity.

The effective generation and application of information and the sound use, development and organization of computer technology are basic to the management of government and to government's ability to understand and respond to the environment in which it operates. To a significant degree, a government's productivity will depend on its success in computer management.

Automatic data processing consists of two elements, each of which is an important, complex and costly resource. The first, *computer services*, is basically production-oriented. It includes both the equipment and the personnel necessary to operate the computer. *Systems and programming*, the second element, comprises the systems analysts and computer programmers who develop computer applications for the user.

The major objective of the present study is to provide a framework for the effective and efficient management of computer facilities and systems and programming personnel.

We confined our investigation to those departments and agencies which draw on the government's consolidated revenue fund. Although our conclusions and recommendations are directed towards these units, we believe that our findings could be applied to agencies and commissions outside the fund. Moreover, in studying the use of A.D.P. services, we focussed on the needs of the program managers rather than on those of the A.D.P. specialists.

Our recommendations propose a framework for the management and control of automatic data processing in the Government of Ontario. While they are based on present uses and needs, they are also intended to help the government exploit future developments in computer technology.

A.D.P. IN THE ONTARIO GOVERNMENT

In 1965, the then Treasury Board Secretariat conducted a major study of automatic data processing in the Ontario Government. The primary thrust of its recommendations was to encourage managers to use A.D.P. In pursuit of this aim, the study recommended that A.D.P. standards be established and that systems groups be formed in major departments. To control the proliferation of equipment, the installation of three computer centres was recommended: one in the Department of Treasury, to deal with financial information systems; a second in the Department of Economics, for statistical information systems; and a third in the Department of Highways, for engineering and scientific applications.

Although the report recognized the economies of scale that could be realized by consolidation of computers, it did not recommend such consolidation at that time. However, in view of the rapidly changing technological environment, it did recommend that the issue be re-examined in 1970.

By 1970, many government managers were familiar with computers and their applications. Nevertheless, the C.O.G.P. found from a preliminary study that managers needed help to obtain the maximum benefit from the new technology. Since it also became apparent that a full examination of the subject could yield important savings for the government, the present C.O.G.P. study was initiated.

Between 1965 and 1970, A.D.P. facilities at the disposal of the Ontario Government developed dramatically. By 1970, thirteen hundred government employees, representing almost 2 per cent of its personnel, worked in A.D.P. Major computer installations had increased from two to five, operating in the Computer Services Centre, the Health Insurance Registration Board, and in the Departments of Highways, Education and Transport. These installations, in addition to supplying computer facilities and personnel for their users, provided between 2 per cent and 50 per cent of their capacity to other departments. In the same five-year period, the number of computers in the five centres grew from two to 14.

Five departments, Treasury and Economics, Labour, Lands and Forests, Revenue, and Municipal Affairs, wished to pool their A.D.P. resources in order to improve the service to each. The Computer Services Centre, mentioned earlier, evolved as a result. To ensure that the Computer Services Centre was responsive to the needs of the departments in question, its management was made responsible to a Computer Services Board, composed of the five deputy ministers concerned. In addition, the Centre provided service to a number of other departments.

The major installations and most departments had systems and programming units to serve computer facilities. These units, whose function was to develop systems and write computer programs, employed from three to 70 people. In a number of cases, the systems and programming unit was so small that it lacked the resources to serve its department adequately. Where a department had a computer of its own, its systems and programming personnel usually formed part of the computer branch.

Our study also considered the past and present use of A.D.P. services, and their projected application. Some of our proposals are based on accumulated technological experience, such as the practice by which several users share a computer without interference to the individual schedules.

The Management Board's responsibility for control over A.D.P. expenditures was reviewed. In its control capacity, the Management Board now evaluates A.D.P. expenditures exceeding \$10,000 per annum. In addition to this control function, the Management Board advises departments and some agencies on all aspects of A.D.P.

We examined the current and past cost of A.D.P. to the government and made a forecast of future costs. A considerable amount of cost data from a number of sources was available, but comparisons were difficult to make because the information was based on a variety of definitions. Nevertheless, we estimated that for the fiscal year 1964-65 the cost of automatic data processing in the Ontario Government was under \$2 million. Since then, the cost has been increasing at the rate of \$3 million, or about 20 per cent, a year. For the fiscal year 1971-72, the total cost for A.D.P. services is estimated at \$23 million. Projections indicate that by the fiscal year 1976-77 the annual cost will approach \$40 million.

For the purpose of our study, automatic data processing costs were divided into four categories:

- ♦ the cost of A.D.P. personnel;
- ♦ the cost of equipment;
- ♦ the cost of supplies and services;
- ♦ the cost of travel and other miscellaneous items.

We discovered that there was no inventory of existing systems using computers in the government, although the necessary information is available in the Management Board Secretariat. This information, combined with our working papers and the procedural guidelines we drafted, could be used to develop a reasonably comprehensive inventory.

Perceived Problems

As a result of our studies, we identified the following problem areas:

- * some departments are not assuming sufficient responsibility for the efficient and effective use of A.D.P., in part because of insufficient involvement by top level management;
- ♦ the true costs of A.D.P. services are usually not determined, nor are they always allocated to program managers; consequently, most managers do not know the real costs of using these services, nor do they feel responsible for them; moreover, there is no incentive for program managers to demand optimum service at minimum cost; as a result there is no pressure on the A.D.P. suppliers to operate at maximum efficiency;
- ♦ there are no explicit government-wide policies, standards, or criteria to assist in A.D.P. decision-making in such areas as organization structure, equipment acquisition, purchasing of external services, or evaluation of proposed computer applications;
- ♦ little auditing of A.D.P. activities is carried out;
- ♦ long-range planning for A.D.P. is inadequate;
- ♦ the fact that the Management Board is concerned in both the control and servicing of A.D.P. exercises constraint on departments in its use;
- ♦ coordination of A.D.P. activities and the sharing of common data in the government as a whole are inadequate;
- ♦ program managers are often uninformed about the capabilities of A.D.P.

Once these problems were noted, we selected five areas for further study:

- * the responsibilities of the Management Board for the overall use of A.D.P.;
- ♦ the relationship between the computer services function and the systems and programming services function;
- ♦ the responsibilities and needs of program managers for the use of A.D.P.;
- ♦ the organization of computer services;
- ♦ the organization of systems and programming services.

In developing our recommendations and organizational guidelines, we adhered to two basic principles:

- ♦ program managers should be responsible for their use of A.D.P. and should, therefore, be free to procure services wherever they are most effectively and efficiently provided;
- ♦ competition among A.D.P. suppliers is desirable and should be encouraged.

Our approach was to look first at the Management Board's overall responsibilities for the use of A.D.P. throughout the government. We then turned to the relationship between computer services and systems and programming services. We also examined alternative organizational structures and mechanisms for encouraging better computer and systems and programming services. Lastly, we investigated the A.D.P. needs and responsibilities of program managers.

ORGANIZING FOR A.D.P.

Responsibilities of the Management Board

The Management Board controls and evaluates the expenditure of funds by departments, including those for A.D.P.

In addition, the Board provides A.D.P. services to departments through its Secretariat. These services include writing computer programs, directing certain systems and programming units, and participating in A.D.P. feasibility studies. In justification of this dual role, it is argued that, since a group of skilled people is required to evaluate the operations of departments, that same group might as well provide advice and service to users. However, these two conflicting roles make it difficult for the Management Board Secretariat to be objective either in evaluating performance or in recommending to the Board the approval of new equipment or systems applications.

At the same time, departments are unlikely to assume full responsibility for A.D.P. services when these services are provided by a control agency. This results in pressures from which departments should be free when planning their A.D.P. activities. Under the present system, none of the principals — the supplier, the user of the service, and the control agency — is fully accountable.

In our Third Interim Report, we proposed that the Management Board of Cabinet provide ministries with leadership, guidance and regulations on the quality and quantity of resources which they use, as well as on methods of acquisition. We also took the view that as a general principle it would be inappropriate for the same organization to control ministries in their use of resources and, at the same time, act as a supplier of services to them.

As far as A.D.P. is concerned, we believe this principle should be adhered to. The Management Board should restrict its activities to control policies which would guide ministries in the proper use of automatic data processing. In addition, it should evaluate their activities to ensure that the policies are being followed. Senior personnel in the Management Board Secretariat should coordinate and integrate ministerial long-range plans for the use of A.D.P.

The Management Board should evaluate feasibility studies for A.D.P. systems and, once implementation is in progress, carry out periodical reviews of these systems as part of its operational audit function.

Lastly, the Management Board should set standards for such matters as programming languages, and security of data and documentation,

leaving the suppliers of A.D.P. services free to establish internal operating standards. Provided the A.D.P. suppliers met the Management Board's guidelines, they could, for example, be responsible for selecting their equipment. We therefore recommend that:

- 9.1 The Management Board of Cabinet be responsible for establishing the broad guidelines within which A.D.P. is used in the government; and that all existing service functions now performed by the Management Board be transferred elsewhere.**

The Management Board's policies and standards for program managers should apply to all services, whether obtained inside or outside the government.

Our proposed organizations for A.D.P. provide checks and balances designed to reduce the need for detailed control of suppliers by the Management Board.

In sum, under the C.O.G.P.'s proposed reorganization, the Management Board's functions would include:

- ♦ coordination and integration of users' long-range plans;
- ♦ coordination of activities among users;
- ♦ coordination of research into policy for the use of A.D.P.;
- ♦ development of policy guidelines for users;
- ♦ evaluation of major systems plans before they are launched and after they are implemented;
- ♦ coordination of the training of managers in the use of A.D.P.

We therefore recommend that:

- 9.2 A small number of senior personnel in the Management Board coordinate, control and evaluate A.D.P. services provided to ministries.**

Separating Systems and Programming from Computer Services

Our earlier description of the present organization for A.D.P. revealed a close organizational linkage between the systems and programming function and the computer function. This linkage is the cause of a number of management difficulties.

First, managers of computer facilities tend to load their equipment to full capacity, even though particular applications may not be suitable for their equipment nor, for that matter, for any computer. This practice comes

about because use of a computer is frequently equated with efficiency and the burden of the workload so created is then advanced as an argument to justify the acquisition of newer and faster equipment. Such misapplication prevents the user from taking advantage of more efficient apparatus which may already be available elsewhere.

A variant of this situation occurs when systems analysts and programmers develop and promote programs which do not necessarily respond to user needs. If a critical application is then required, the computer is not able to accommodate it because it is already fully loaded. Additional capacity must therefore be found, a fact which adds unnecessarily to overall A.D.P. costs.

Moreover, to persuade program managers to help load equipment, managers of computer facilities sometimes quote unrealistically low rates, especially for systems and programming. The result is that an inaccurate cost-benefit picture is presented to program managers. Moreover, their interest in the efficient use of automatic data processing is marginal because the apparent costs are so low that efficiency seems to be a negligible factor.

A further point for consideration is the fact that a computer centre may command efficient computer service but provide poor systems and programming. Users should be free to obtain resources from the best available source, not in the form of a loss-leader package.

We believe that, if managers were held responsible for their A.D.P. costs, a considerable reduction could be achieved. It is also our conviction that the separation of service functions from those of control could contribute to such economy.

We therefore recommend that:

- 9.3 The systems and programming function be organizationally separated from the computer services function.**

COMPUTER SERVICES

Problems arising from Present Policies and Organization

The present policies and organization for the delivery of computer services to government managers have given rise to a number of problems, some managerial and some technical. Several have been identified over the past few years and some tentative solutions attempted, with varying degrees of success. The principal problem, as we see it now, is to enable managers to obtain first-rate service at reasonable cost.

On the surface, the present Management Board policy appears to give managers considerable scope in the selection and procurement of computer services to meet their particular needs. They are permitted to use private sector computers when the cost of providing equivalent service within the government exceeds that of commercial installations. In practice, this policy is not fully effective for several reasons.

First, the task of comparing internal and external costs is made difficult by inadequate charging procedures within the government. For example, capital costs of equipment are not amortized but written off in the year of purchase. Since certain significant overhead costs, such as accommodation and utilities, are absorbed by the Department of Public Works, a realistic comparison between government computer services and those offered by commercial organizations becomes impossible. The commercial organizations are, of course, obliged to recover overhead and capital costs and make a profit. The conditions described here create no incentive for program managers to be selective in their choice of suppliers. It follows, therefore, that in order to be able to make valid comparisons the government should adopt charging practices similar to those used in the private sector, which include direct costs and overhead.

Second, the manager of the computer facility is often the person who decides whether work should be processed inside or outside the government. The program manager has little voice in the decision. As a result, it is usually the government computer which is chosen. Too often this results in higher A.D.P. costs than would be quoted by commercial services.

One attempt by managers to achieve better control over computer facilities was the formation of the Computer Services Centre already discussed. At the time it was set up, it may have been an appropriate organizational method for delivering A.D.P. services. However, it has had difficulty in meeting the original expectations of improved quality in service.

One reason is that the member departments have been pressured into using the Centre. Such pressure could become acute if one of the departments wished to remove a major system from the Centre. Since the

Centre is required to recover its costs from users each year, the removal of a single major system would have the effect of creating a dramatic increase in costs to the remaining users. This would cause severe budgeting problems for managers affected.

The situation is further complicated by the fact that members of the Computer Services Board are non-technical people available to serve on a part-time basis only. Starting with little technical expertise in A.D.P. applications, they lack the time to acquire it. For these reasons, we view management by a committee or a board of users as an unsatisfactory long-term method of ensuring the provision of high-quality computer service to the government as a whole.

In addition to the managerial difficulties arising from the present organizational arrangements, a number of technical problems have emerged. The most important of these are outlined below.

First, the five computer centres operate 14 computers, representing several different and, in some cases, incompatible manufacturers' models and operating systems. This fact often makes it extremely costly to move data and programs from one computer to another and complicates the process of sharing data and programs throughout the government. Use of a variety of computers makes it impossible to realize economies of scale. Such economies can be gained from larger machines with improved performance/price ratios.

Under present conditions, consolidation of equipment throughout the government is difficult because the operators concerned are unlikely to make a voluntary surrender of their autonomy. With consolidation, savings could be achieved. For example, there are at present four medium-scale installations in one building. If these four machines were replaced by a single large computer, savings would result from lower rental costs of equipment, reduced floor space, less air-conditioning equipment and fewer operating personnel. In addition, more computer power with greater flexibility would be available to users.

Second, back-up for computer capacity for temporary overloads has not always been provided within the government. Service in periods of peak demand to meet the needs of certain users has been less than satisfactory, causing a needless rise in costs.

Competition from the Private Sector

We believe a competitive environment would promote more efficient service from government computer facilities. It should also prevent uneconomical growth.

Competition in the computer context can take several forms:

- ♦ competition between government and private sector computer facilities for government business;
- ♦ competition among government computer centres for government business;
- ♦ competition between government and private sector computer facilities for government and private sector business.

We propose that competition for government business be developed between government and commercial computer centres on the basis of market prices. Competition would then serve as a yardstick for the performance measurement of government computer installations. Since managers would, in most cases, be free to procure their computer services from government centres or commercial firms, the government computer managers would be under pressure to give good service to the users. If such service proved unsatisfactory, alternatives would be readily available. Competition should thus have the effect of providing managers with good service at minimum rates with a reduction in overall costs to the government.

There may be cases in which internal processing is considered highly desirable, for example, in dealing with confidential information. Here, we propose that alternative arrangements for processing this kind of information within the government be created. This would provide some flexibility for those managers who must have work processed under tight security. Where satisfactory internal service was not obtainable at competitive cost, the user would have two options. He could request that the Management Board investigate the government computer supplier. Alternatively, the program manager could transfer his system to a commercial centre with adequate security arrangements, such as bonding of its employees and the coding of the data in an unintelligible form by scrambling techniques.

The decision whether or not to permit government centres to compete for commercial business is a policy decision for the government. Aside from this consideration, we see no reason to exclude this option to the computer centre managers.

Government computer centres would have the following advantages over their commercial competitors:

- ♦ they would be allowed to bid on all government work;
- ♦ they would have a ready-made nucleus of users and computerized systems; these users would not be likely to leave a centre if the services were good and the costs competitive;
- ♦ they would have to recover full costs only; profits and certain taxes would not be included in their rates.

However, these advantages would be partially offset by the fact that certain personnel practices and financial constraints peculiar to a government operation are often more restrictive than those in commercial organizations. Such constraints might limit the competitive position of the government facility. We feel, nevertheless, that government computer centres would have a net advantage. Consequently, if they could not then compete with commercial organizations, this would clearly demonstrate that the government should not be trying to provide the internal service in question.

The ultimate effects of the proposed competitive environment cannot be predicted with certainty. Commercial installations might capture so much government business that government computer centres would disappear. Alternatively, government computer centres might prove so efficient that they would win all government contracts. We believe that neither of these extreme possibilities is likely to occur. Since internal and external installations have access to the same pool of talent and the same equipment suppliers, the result should be continuing competition, with the work divided between internal and external operators. Such a system should ensure control and improved service for the user. In the long run, it should also reduce overall A.D.P. costs.

In keeping with the general principles outlined earlier, we believe users should be free to procure computer services wherever they are most effectively and efficiently provided. Therefore, we recommend that:

9.4 Competition for government business be encouraged between government and commercial computer centres.

We believe that this recommendation will restore the principle of competition envisaged by the Management Board in its Manual of Administration.

A Computer Services Agency

The number of government computer centres required in future would depend, among other things, on the degree of their competitiveness with the private sector. For purposes of this study, we have assumed the existence of at least two computer centres.

How these computer centres should be organized was our next consideration. Several alternatives were analyzed:

- ♦ a computer centre (or centres) reporting to a board (boards) of users;
- ♦ each ministry operating its own computer centre;
- ♦ major users operating their own computer centre and supplying services to smaller users;

- ♦ a computer centre (centres) reporting to the Management Board;
- ♦ a computer services ministry managing all government computers;
- ♦ a ministry of common services managing all government computers;
- ♦ a computer services agency within a ministry of common services that would manage all government computers.

Earlier, we took the position that users should be free to procure A.D.P. services wherever they are most effectively and efficiently provided. We further recommended that competition between public and private computer facilities for government business be encouraged. The organizational arrangement recommended for the provision of computer service to program managers should therefore accommodate these proposals.

The present organization of the government's computer centres includes groupings in which some major users operate their own computers and supply services to smaller users, and one computer centre which reports to a board of users. We found this situation to be less than satisfactory. Costs have tended to escalate unnecessarily and the number of computers to proliferate.

We therefore recommend that:

9.5 A computer services agency be established within a Ministry of Revenue and Government Services to manage all computer facilities in the Ontario Government.

The creation of a single agency would enable the government to take advantage of economies of scale and provide better computer services to program managers. Our proposal is that the operation and management of computer equipment be centralized but not necessarily the physical location of computers. A computer could be located in a ministry, if the ministry's work made this necessary. The central computer agency would operate the equipment for the ministry under contract.

We have two main aims in proposing the establishment of a computer agency within a Ministry of Revenue and Government Services, rather than a computer facility incorporated in this Ministry as a division. The first is to segregate, within the Ministry, the computer service from the other services provided to program managers. This arrangement would make the computer organization independent for financing and for cost recovery purposes. The second aim is to allow the agency to be designed and managed so that it is subject to many of the same constraints and pressures as those experienced by private sector computer firms. This would provide an effective environment of competition between the two sources of service.

Centralized decision-making on the use of computers is not advocated. On the contrary, we believe that ministries should themselves decide, on the basis of stated guidelines, when to use computers and which suppliers to employ.

In arriving at our recommendation as to the precise form and organizational placement of the central computer agency, we kept the following criteria in mind:

- ♦ in keeping with the principle of separating service and control, the central computer services unit should not report to the Management Board;
- ♦ the agency should be able to determine true costs and reflect these in its rates;
- ♦ there should be no direct connection between the agency and program managers; this would tend to favour objectivity in decision-making;
- ♦ the computer agency should not report to a board of users;
- ♦ the computer services agency should have freedom to manage and compensate its personnel on lines similar to those prevailing among private sector computer firms.

The agency should not be expected to recover its costs in the first year or in any given year of operation, but should be allowed and expected to do so in medium-term periods of two to three years.

The agency should be allowed to bid on the processing of all government computer applications. No ministry should own, lease or operate computers. This would be the responsibility of the central agency under contract to the ministry. However, remote terminals could be controlled by user ministries.

The computer services agency's general manager should have the same degree of control and managerial authority as the manager of a commercial computer organization. This would include financial control, after receipt of an initial start-up grant from the consolidated revenue fund. Since the general manager would enjoy full authority and flexibility in conducting his day-to-day operations, his performance should be judged primarily by his ability to recover costs. The recovery of costs would serve as an indicator that the manager was running an efficient operation as well as giving satisfactory service.

Benefits of Reorganization

The 14 computers now operated by the Ontario Government have an annual rental cost of \$4.4 million. Today, about 280 employees are

associated with the operations and technical and administrative support of the computer centres, at an annual cost of \$3.4 million.

Our studies of the ways in which rentals and other A.D.P. expenditures could be lowered indicate that the best method would be to reduce the number of computers. Assuming that this could be cut down to two, we estimate that a total saving of \$2.4 million per annum could be achieved. This would break down roughly as follows:

- ♦ a reduction in annual rental of about \$1.7 million;
- ♦ an annual reduction in personnel costs of \$600,000, based on an estimated drop of 50 in the work force;
- ♦ an estimated saving of \$150,000 a year from reduced floor space and power requirements.

We anticipate that the more powerful equipment and its greater capacity, as well as the keener competitive environment, would result in improved service to users.

Replacement of the present 14 computers by two larger models would entail some additional cost on account of initial overcapacity in both equipment and personnel. However, this extra expenditure should be substantially offset by the long-term economies foreseen. It would probably take three years to realize the full estimated annual cost saving and benefits.

SYSTEMS AND PROGRAMMING SERVICES

Problems arising from Present Policies and Organization

Most departments and agencies now have their own systems and programming branches. In departments with computer installations, the systems and programming personnel report to the computer centre managers. The present organizational arrangement has many disadvantages.

First, the number of systems analysts and programmers in the government exceeds the demand for their services. This situation has arisen because each systems and programming group has assembled a staff large enough to meet its peak requirements. If the volume of work tapers off, the size of the staff concerned rarely decreases, even though others may be building staff units to meet their own peak needs. The double effect is to produce a larger systems and programming force than is needed and one in which the highly skilled officers are spread too thinly across the government. Quality of service therefore suffers.

Second, the costs of providing systems and programming services are often hidden in the departmental budget. Moreover, since most overhead costs, such as space, air-conditioning, capital expenditures and recruiting, are not reflected in the systems and programming budgets, users are usually not charged with the true costs of computer-related activities. Often, no charges are levied at all. Thus, there is no accurate basis for judging the relative costs and benefits of systems that use computers.

Even where charges are made for services, these costs are not charged to program managers but to the systems and programming branches. Sometimes, no clear distinction is made between charges for computer services and those for systems and programming services. Where the program managers do receive a statement of costs for their systems, the funds used are not drawn from their own budgets and therefore do not encourage a comparative evaluation of systems. For all of these reasons, program managers experience no real incentive to take a critical view of systems and programming services or to question the costs.

Third, as described earlier, program managers are committed to use their own systems and programming group even if they could get better service elsewhere.

Fourth, because the systems and programming function is decentralized into many small units, it is difficult to set and maintain universal performance standards and to manage personnel effectively by evaluating performance against those standards. Moreover, new ideas are not communicated effectively from one department to another. Time is wasted "re-inventing the wheel". The interministerial systems which we anticipate

will be required in the future will be difficult to develop under the present arrangement.

Competition from the Private Sector

In relation to government systems and programming business, we feel once again that an important means of ensuring efficient and effective use of resources would be to encourage competition by commercial organizations of the private sector. Such competition would have advantages similar to those outlined in connection with computer services (pp. 14–18).

We therefore recommend that:

9.6 Commercial systems and programming firms be allowed to compete with the government systems and programming service for government business.

Ministries, by thus acquiring a realistic comparative costs picture, would then be in a position to hire systems and programming services either from within the government or from commercial organizations, according to their own best interests. Such services should be judged on their ability to recover true costs from program managers. Cost recovery would be one measure of the quality and efficiency of the work done.

A systems and programming service within the government would have two main advantages over commercial competitors. First, it would have close contact with government personnel and would have staff experienced in the needs of ministries. Second, it would be required to recover its costs, but not to make a profit. If, with such advantages, the service could not compete successfully with commercial organizations, this would indicate that its management needed to be improved. In the event that improvement could not be achieved, the service should cease to exist.

A Systems and Programming Agency

In considering the best organizational design for the systems and programming function, we examined several alternatives similar to those considered for computer centres:

- ♦ a systems and programming group in each ministry;
- ♦ a central group situated within the Management Board Secretariat;
- ♦ systems and programming groups operated by major users which supply services to other ministries;
- ♦ a systems and programming group in a ministry of common services, providing services to all users;

- ♦ a separate ministry for management services providing a full range of management consulting services;
- ♦ systems and programming groups in a few major user ministries, while all other ministries use commercial services.

Many of the arguments and criteria advanced for the centralized management of computer facilities hold for the systems and programming function.

If systems and programming personnel were centralized, they could be more efficiently deployed since they could be assigned to ministries for specific tasks and then reassigned when their tasks were completed. Talented people would not be lost to ministries, since they could be reassigned when needed again. The situation would not arise in which, in some ministries, talented people are underutilized, while other ministries are in serious need of skilled help. Under a centralized system, ministries would pay only for actual services received, not for idle resources. It would be more economical for the government as a whole to develop and retain specialists, since their talents could be applied to a larger range of problems. The total effect would be to improve service to program managers.

Common systems or systems using common data could be developed, since the central systems and programming groups would be able to identify and help exploit such opportunities.

A systems and programming organization that operated independently of user ministries and of the computer services agency could offer more objective advice to ministries on their systems applications.

Ministries would contract for maintenance of existing systems with the central systems and programming organization or with outside organizations. This would be more economical than the present arrangement, since program managers would be charged only when maintenance was needed.

If a large number of systems and programming personnel were required at short notice for priority needs it would be readily available.

The program managers would be in a position to demand competent, effective systems analysts and programmers. If a program manager were dissatisfied with the performance of an analyst or programmer, he could have him replaced by notifying the manager of the systems and programming unit.

Since program managers would be charged for services received, the onus would be on them to see that projects undertaken were justified and the prices competitive. This safeguard should achieve higher quality at lower cost.

Where some departments have had systems and programming personnel who specialize in certain types of work, e.g., scientific programming, a centralized systems and programming organization would still allow such specialized personnel to be assigned and contracted to the ministries concerned. These specialists, though under the direction of the program manager, would belong to the staff of the central unit. However, in exceptional cases where a ministry has a continuous need for a few particular specialists, such persons could be attached to the ministry complement.

Accordingly, we believe that a systems and programming agency should be established within a Ministry of Revenue and Government Services, for reasons similar to those put forward in connection with the proposed computer services agency.

We therefore recommend that:

- 9.7 a) Most systems and programming personnel in the Ontario Government be managed centrally by a systems and programming agency located in a Ministry of Revenue and Government Services.**
- b) Where a ministry can demonstrate, to the satisfaction of the Management Board, that it has a continuous need for a small number of highly specialized analysts and programmers, the ministry be permitted to retain these specialists in its own organization. This special ministerial need should be reviewed annually by the Management Board.**

The agency should be directed by a general manager who would determine its internal structure and organization.

The systems and programming agency would have authority and responsibility to provide most of the systems and programming services in the Ontario Government.

It would be advisable to permit the agency to recover its costs in medium-term periods of two to three years, rather than in the first year or in any given year of its operations. Functioning in competition with commercial organizations, the agency should be allowed to bid on all government systems and programming business and to undertake small assignments without tender, if so requested by program managers.

The manager of the agency should have the same control and managerial authority over his operations as a manager of a commercial organization. This would include financial control, after receipt of an initial start-up grant from the consolidated revenue fund.

Within the guidelines laid down by the Management Board, the agency should have maximum authority and flexibility in the conduct of its day-to-day operations.

Benefits of Reorganization

The proposed systems and programming agency would result in an estimated annual saving of \$1.5 million. This estimate is based on an anticipated decrease in the present staff and on a slower rate of growth in future staff requirements. On the other hand, the estimate covers 10 additional administrative personnel who would be required by the agency.

Of the 370 systems analysts and programmers in the Ontario Government, we estimate that about 95 would be required as specialists in ministries, as Management Board Secretariat personnel or as systems coordinators in ministries who are described in the next section.

Of the remaining 275, approximately 110, or 40 per cent, would be redundant. Our calculations are based on the following assumptions:

- ♦ charging program managers the true cost of services should reduce the present work load; users could be expected to become more discriminating in their use of systems and programming services;
- ♦ better use of staff should result from centralization; personnel would be assigned to ministries for specific tasks or for specific periods of time and could be reassigned to other ministries as needed;
- ♦ private sector competition would act as an incentive to reduce unproductive personnel.

Apart from cutting costs, the competitive environment should result in improved service to program managers by providing access to alternative sources of supply. Program managers would be in a better position than before to judge the quality of service.

SYSTEMS COORDINATORS

Since automatic data processing is a tool to assist managers, responsibility for its effective use must lie with them.

One reason why A.D.P. services, particularly systems and programming services, are not well used is the difficulty experienced by managers in communicating their data needs to A.D.P. specialists. To bridge this communication gap, we propose the appointment of *systems coordinators*. These coordinators, who would form part of the senior management team in each ministry, would advise on all facets of the management and use of A.D.P. Having an A.D.P. background as well as being familiar with the work of their ministry, they would be well equipped to ease communication between user managers and computer specialists and systems and programming specialists. In their coordinating function, they would recommend feasible computer applications to program managers and contract for the necessary systems and programming personnel and computer resources. It would be their responsibility to ensure that computerized systems were able to meet the program manager's needs and deadlines. They would also monitor the operations of new A.D.P. applications.

We therefore recommend that:

- 9.8 One or more systems coordinators be appointed in each ministry as an integral part of its management and with responsibility for advising on all aspects of the use of A.D.P. and for procuring all A.D.P. services.**

The number of systems coordinators in a ministry would depend on its needs. A small ministry with relatively small requirements in A.D.P. could conceivably share a systems coordinator with another ministry. Large ministries with considerable A.D.P. traffic might require a coordinator in each division, reporting to the executive director of the division. Approval of the complement for divisional systems coordinators would be a matter for the Management Board. Systems coordinators would need no staff other than secretarial support. Their appointment would therefore not develop into any form of systems coordinator branch in a ministry.

When A.D.P. priorities need to be established in a ministry, an A.D.P. steering committee should be formed. The systems coordinators, along with the program managers affected, would be logical candidates for membership of such a committee. It should work under the chairmanship of the deputy minister.

APPLICATION OF THE CONCEPT

Having outlined the main elements of the proposed organizational changes to provide computer services and systems and programming services, we should now fit the parts together.

First, there would be two new agencies within a Ministry of Revenue and Government Services — one charged with providing computer services, the other with systems and programming services. Each agency would be managed by its own general manager, but neither would necessarily be centralized in geographical terms.

The Management Board of Cabinet would control the use of A.D.P. throughout the government in accordance with operating guidelines. It would no longer provide any A.D.P. services.

To facilitate operations, one or more systems coordinators, located in ministries, would work in close association with program managers. They would concentrate on the information needs of their department and would not be primarily concerned with technical details. Their function would be to bridge the gap between program managers and the technical support services.

Systems and programming personnel, though remaining physically located in the ministries, would work for the most part on assignment and under contract. While they would operate under the direction of the program manager, they would serve, except in a few cases, on the staff of the systems and programming agency, from which their work assignments and pay would be derived. Once a job assignment was finished, they would be reassigned to another project in that ministry or to another ministry.

Program managers, through their systems coordinators, would be permitted to purchase computer services and systems and programming services from either the government agencies or the private sector. The option to tap commercial sources would be at the ministry's discretion and would probably be used in cases where the required expertise was unavailable within the government, where the government service was inferior, or where cost savings could be realized. It would be the responsibility of the systems coordinator to obtain competing bids on jobs which would include one from the appropriate government agency (figure 1).

Services would be provided under contract, either for a specific project or for a specific period. Decisions regarding the terms and duration of contracts would be made jointly by the coordinator and his program manager. Cancellation arrangements could be incorporated into contracts to prevent the program manager from being tied to one supplier for an extended period.

DELIVERY OF A.D.P. SERVICES TO PROGRAM MANAGERS

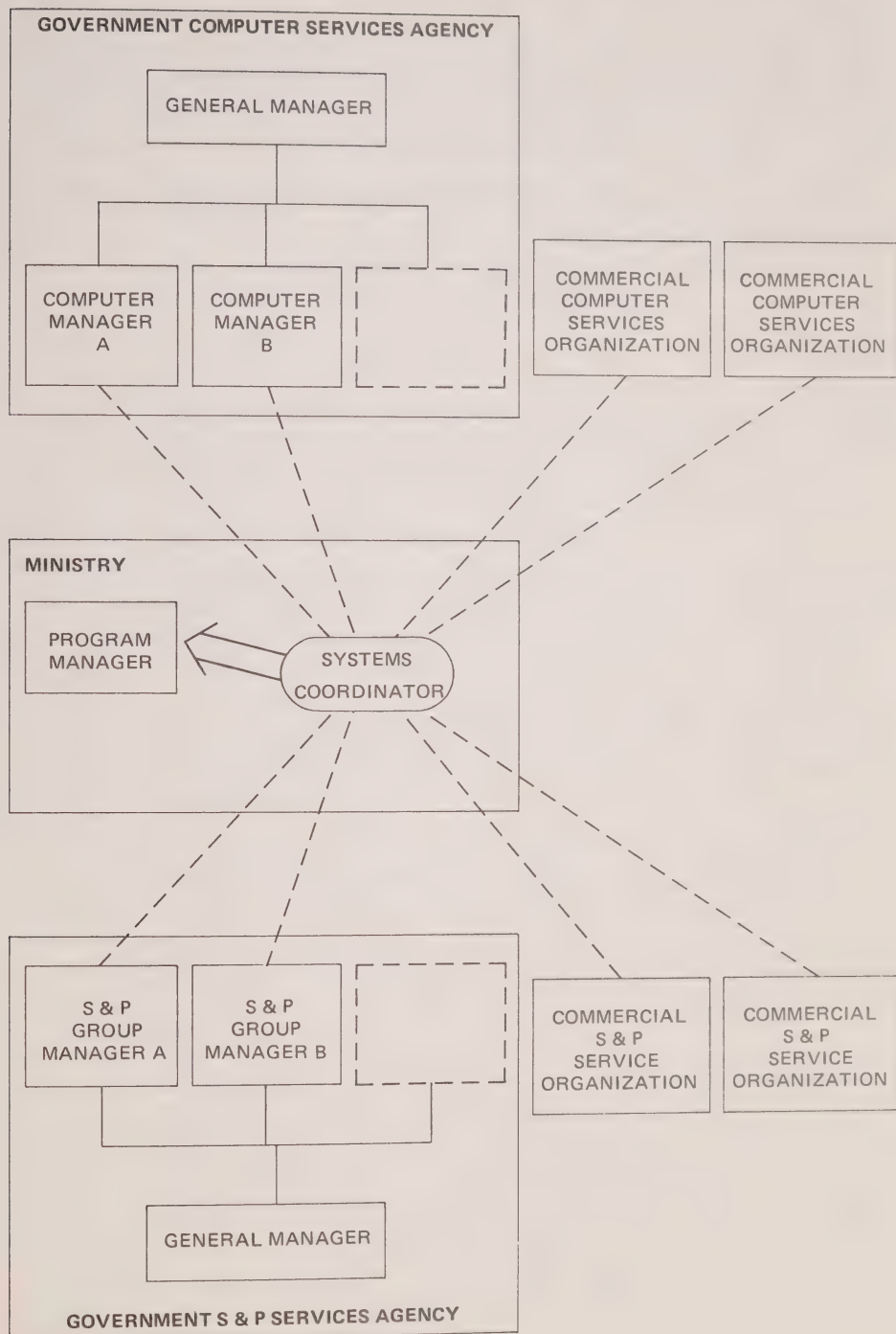


FIGURE 1

In our view, the organizational framework we propose coupled with the cost-benefit principle, applied through the contract system, would constitute the most economical and effective means of providing A.D.P. service to ministries. The checks and balances inherent in the competitive environment would help control costs. Not only would marginally beneficial or uneconomic projects be eliminated and overall government costs be reduced, but the quality of service would be improved.

We estimate total annual cost savings from the reorganization of the A.D.P. function at \$3.9 million.

IMPLEMENTATION PLAN

The primary objective of the implementation plan is to ensure that the proposed recommendations are introduced in such a way as to breed benefits at the earliest possible date. A secondary objective is to ensure a smooth transition to the new organizational arrangements. Both these objectives would be advanced by the planned steps set out below.

- ♦ A general manager should be recruited by open competition for each agency.
- ♦ Each general manager should plan and organize a structure capable of fulfilling his agency's objectives.
- ♦ Each general manager should recruit his key managerial personnel by open competition.
- ♦ The consolidation of computers or of computer centres by the new computer services agency should be carried out as quickly as possible, the entire process to be completed not later than December 31, 1974. Periodic reviews of its progress should be undertaken by the Management Board.
- ♦ All existing equipment-leasing contracts with computer manufacturers or leasing companies should be assigned to the computer services agency and renegotiated, if necessary, when consolidation has taken place.
- ♦ All public servants providing operational, technical and administrative support to the present computer centres should have the right to apply for transfer to the new computer services agency.
- ♦ Similarly, systems and programming personnel in the management services officers classification should have the right to apply for transfer to the systems and programming agency.
- ♦ Centralized management of systems and programming personnel should be achieved as quickly as practicable. Periodic reviews of progress in this direction should be undertaken by the Management Board.
- ♦ All ministries requiring new systems coordinators should recruit them through open competition.
- ♦ After the formation of the new agencies, no ministry would be allowed to hire computer operators, technical support personnel, systems analysts or programmers. Exceptions would be made only in the case of systems coordinators, certain staff in the Management Board Secretariat, or a small number of highly specialized analysts and programmers who would be retained by some ministries.

- ♦ Systems and programming personnel who transfer to the new agency or who leave for other reasons would be replaced by personnel supplied on contract, either by the new agency or from outside the government. This would facilitate the transfer of on-going work from the ministerial systems and programming branches to the agency or to private sector firms. At the same time, it would reduce unnecessary or unproductive manpower.

With the foregoing implementation plan in mind, we recommend that:

9.9 Implementation of the recommendations in this report be completed before December 31, 1974.

Implications

The proposed implementation plans should provide for all data processing personnel at present employed by the government a variety of opportunities over the next three years. A few highly specialized analysts and programmers would be retained by some ministries. Most data processing personnel would probably join the two A.D.P. agencies, and a number would become coordinators or members of the Management Board Secretariat. A small number might wish to leave the government or seek other employment within the government. The three-year period was chosen to give the agencies time to plan and organize so as to become competitive with the private sector; it would also afford an opportunity for affected personnel to settle into the new structure.

While the management and control of all computing facilities would be transferred to the computer services agency on a gradual basis, it would not be the intention to remove all existing facilities from the ministries. Some large users might continue indefinitely to have equipment situated in their ministries. This would depend largely on the role which automatic data processing has come to play in those ministries and on the alternative sources of service available to them.

No staff vacancies in systems and programming would be filled by ministries during the implementation period. Instead, contractual arrangements for personnel would be made between the ministry and the systems and programming agency or commercial organizations. This would mean that ministries now having systems and programming groups of their own need not be adversely affected by interruptions in service.

SUMMARY OF RECOMMENDATIONS

Interim Report Number One

The C.O.G.P. recommended that:

1. THE AUDIT FUNCTION

- 1.1 The Audit Act be amended to remove from it the requirement for the Provincial Auditor to examine requisitions for expenditure of funds within approved appropriations before a cheque may be issued.
- 1.2 The present pre-audit function be transferred to the Comptroller of Accounts as an interim step.
- 1.3 The Treasurer of Ontario be empowered, on the advice of the Comptroller of Accounts, to transfer the pre-auditing function to departments as they demonstrate their capabilities to maintain adequate legal and accounting controls of expenditure.
- 1.4 The Provincial Auditor assume the role of financial auditor of accounting systems and transactions.
- 1.5 The Comptroller of Accounts establish criteria for the adequacy of accounting system performance, measure the effectiveness of each department's system against the established criteria and develop a plan to upgrade those systems found wanting.

2. DEVELOPMENT OF TOP ADMINISTRATORS

- 2.1 The government formulate a policy and implement a planned program designed to give selected managers the opportunity to obtain 'corporate', inter-departmental experience. Since the example of style in management comes from the top, this program should initially be limited to a group of approximately 100 people: deputy ministers, assistant deputy ministers, heads of ministerial agencies and equivalent ranks.

3. MANAGEMENT OF SUPPLY AND SERVICES

- 3.1 The Treasury Board be responsible for the approval and publication of the Government's purchasing and supply policies and procedures.

- 3.2 The Central Supply Division, Department of Public Works, be responsible for developing policies and procedures for the approval of Treasury Board.
- 3.3 The role of the Central Purchasing Committee be modified to that of an advisory committee.
- 3.4 Central Duplicating should be the only large government duplicating facility serving all departments that are within easy access of the Queen's Park complex. Treasury Board will be responsible for deciding whether users can justify their own facilities based on remoteness.
- 3.5 Departments should be responsible for the operation of copy centres for small volume and urgent work.

4. PARLIAMENTARY ASSISTANTS

- 4.1 Parliamentary Assistants be appointed to provide specialized assistance for ministers in charge of major departments.

5. CABINET COMMITTEES AND SUPPORT STAFF

- 5.1 The government consider the increased use of Cabinet committees and the provision of the necessary support staff.

6. TASK FORCES

- 6.1 The government consider making increased use of task forces, as defined by the C.O.G.P., to tackle problems crossing functional lines or involving more than one department or agency.

Interim Report Number Two

The C.O.G.P. recommended that:

5. CABINET COMMITTEES AND SUPPORT STAFF

- 5.2 The Cabinet establish two senior Cabinet committees, the Policy and Priorities Committee and the Management Committee.
- 5.3 The chairmen of these committees be ministers without operating responsibility.
- 5.4 The Cabinet establish a Legislation Committee.

- 5.5 The Cabinet establish Coordinating Committees.
- 5.6 The Cabinet committees be supported by additional secretarial resources.
- 5.7 The Cabinet accept more formalized procedures.

7. INTEGRATION OF PAYROLL AND PERSONNEL INFORMATION

- 7.1 A system of centrally collecting basic data on employees which is integrated with the central payroll system be approved and that a program of integration be implemented.

Interim Report Number Three

The C.O.G.P. recommended that:

8. STRUCTURE OF GOVERNMENT

- 8.1 Policy Ministers without operating responsibilities be appointed to devote full-time attention to setting priorities, to providing leadership in policy development, and to coordinating related programs of government within their respective policy fields.
- 8.2 The Policy and Priorities Board of the Cabinet be composed of the Prime Minister as Chairman, the Chairman of the Management Board of Cabinet, the Minister of Finance and Intergovernmental Affairs, and the Policy Ministers.
- 8.3 A Social Development Policy Field be established containing the following Ministries: Colleges and Universities, Education, Health, and Housing and Social Services.
- 8.4 An Environment and Resources Development Policy Field be established containing the following Ministries: Agriculture and Food, Environment, Labour, Natural Resources, Trade and Industry, and Transportation and Communications.
- 8.5 A Justice Policy Field be established containing the following Ministries: Attorney General, Correctional Services, Public Protection.
- 8.6 Policy field committees of Cabinet be established. In each case, the membership of these committees would be all of the Ministers within a particular policy field, chaired by their Policy Minister.

- 8.7 A Ministry of Finance and Intergovernmental Affairs be established.
- 8.8 Parliamentary Assistants be appointed to assist the Minister of Finance and Intergovernmental Affairs.
- 8.9 A Ministry of Revenue and Government Services be established, with primary responsibility for:
- a) administering the collection of revenues, and
 - b) the provision of common services.
- 8.10 The Minister of Revenue and Government Services be a member of the Management Board.
- 8.11 The following principles be applied in the delivery of common services:
- a) policy and standards on the delivery and use of common services be approved and promulgated by the Management Board;
 - b) charges for services provided by the Ministry of Revenue and Government Services be levied to customer ministries on a full-cost basis;
 - c) ministries be allowed to obtain services within or outside the Government;
 - d) some of the common services need not be centralized under the Ministry of Revenue and Government Services but could be delegated to units within ministries that have specialized expertise.
- 8.12 The Management Board consist of a full-time Chairman, at least one Minister from each policy field, the Minister of Finance and Intergovernmental Affairs, and the Minister of Revenue and Government Services.
- 8.13 The Chairman of the Civil Service Commission report to the Chairman of the Management Board.
- 8.14 The Department of the Civil Service cease to exist and that its staff become the staff of the Civil Service Commission.
- 8.15 The Chairman of the Civil Service Commission cease to be known as the deputy minister of the Department of the Civil Service, but that he continue to have deputy minister status.

- 8.16 One or more Commissioners with personnel expertise be appointed to the Civil Service Commission from outside the Public Service.

- 8.17 The Civil Service Commission continue to provide advice on personnel policy to the Management Board and personnel services to ministries. Ministries be allowed to provide such personnel services as recruiting and staff training for themselves or be given the option of purchasing such services either from the Civil Service Commission or from outside Government.

- 8.18 The decision to leave the central supply of personnel services within the Government with the Civil Service Commission be reviewed by the Management Board within 5 years, with the object of transferring some of those services to the Ministry of Revenue and Government Services.

- 8.19 The Management Board restrict itself to control functions and that all service functions, except those affecting personnel, be transferred to the Ministry of Revenue and Government Services.

- 8.20 A small secretariat be established for each policy field to provide the Policy Minister with analytical and administrative support. These appointments should be for a specific, renewable term (2 to 5 years). The search for suitable candidates should not be restricted to the Public Service.

- 8.21 A Secretary with the status of a deputy minister be appointed to head each policy field secretariat. These appointments, that of the Deputy Minister of Finance and Intergovernmental Affairs, the Secretary to the Management Board, the Secretary to the Cabinet, and the Deputy Minister of the Department of the Prime Minister should be for a specific, renewable term (2 to 5 years). The search for suitable candidates should not be restricted to the Public Service.

- 8.22 An advisory and support group for the Policy and Priorities Board be formed, made up of the three policy field Secretaries, the Deputy Minister of Finance and Intergovernmental Affairs, the Deputy Minister of the Department of the Prime Minister, the Secretary to the Management Board, and the Secretary to the Cabinet, who would act as Chairman.

- 8.23 The Secretary to the Cabinet provide a committee secretary to the Policy and Priorities Board and each of the other committees of Cabinet, except the Management Board, to assist in the preparation of agenda and minutes, in order to ensure consistency of format and coordination of information flow.

Interim Report Number Five

The C.O.G.P. recommends that:

9. AUTOMATIC DATA PROCESSING

- 9.1 The Management Board of Cabinet be responsible for establishing the broad guidelines within which A.D.P. is used in the government; and that all existing service functions now performed by the Management Board be transferred elsewhere.
- 9.2 A small number of senior personnel in the Management Board coordinate, control and evaluate A.D.P. services provided to ministries.
- 9.3 The systems and programming function be organizationally separated from the computer services function.
- 9.4 Competition for government business be encouraged between government and commercial computer centres.
- 9.5 A computer services agency be established within a Ministry of Revenue and Government Services to manage all computer facilities in the Ontario Government.
- 9.6 Commercial systems and programming firms be allowed to compete with the government systems and programming service for government business.
- 9.7 a) Most systems and programming personnel in the Ontario Government be managed centrally by a systems and programming agency located in a Ministry of Revenue and Government Services.
- b) Where a ministry can demonstrate, to the satisfaction of the Management Board, that it has a continuous need for a small number of highly specialized analysts and programmers, the ministry be permitted to retain these specialists in its own organization. This special ministerial need should be reviewed annually by the Management Board.

- 9.8** One or more systems coordinators be appointed in each ministry as an integral part of its management and with responsibility for advising on all aspects of the use of A.D.P. and for procuring all A.D.P. services.
- 9.9** Implementation of the recommendations in this report be completed before December 31, 1974.

APPENDICES



ONTARIO
EXECUTIVE COUNCIL OFFICE

APPENDIX 1

OC-4689/69

Copy of an Order-in-Council approved by His Honour the Lieutenant Governor, dated the 23rd day of December, A.D. 1969.

Upon the recommendation of the Honourable the Treasurer of Ontario and Minister of Economics, the Committee of Council advise that a special Committee, consisting of the following persons:

J.B. Cronyn	Chairman
G.H.U. Bayly	Member
C.E. Brannan	Member
A.R. Dick, Q.C.	Member
C.C. Hay	Member
G.R. Heffernan	Member
H.I. Macdonald	Member
A. Powis	Member
J.K. Reynolds	Member
R.D. Wolfe	Member

be appointed to inquire into all matters pertaining to the management of the Government of Ontario and to make such recommendations as in its opinion will improve the efficiency and the effectiveness of the Government of Ontario.

The Committee further advise that this inquiry to be known as the Productivity Improvement Project, not extend to the institution of the Legislative Assembly of Ontario.

And the Committee further advise that the Committee be authorized to adopt such procedures and methods as it from time to time deems expedient for the proper conduct of the inquiry and to engage the services of such counsel, staff, and technical advisers as it may require at rates of remuneration and reimbursement to be approved by Treasury Board.

Certified

A handwritten signature in dark ink, appearing to be "H. J. Macdonald".

Clerk Executive Council.

AUTOMATIC DATA PROCESSING STUDY

Project Team

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C. Bell	Computer Systems Consultant Computer Services Centre
A.M. Campbell	Manager, Information Systems DCF Systems Limited
K.A. Croswell	Director, Systems and Programming Analysis Branch Department of Trade and Development
W.B. Duffey	Director, Systems and Programming Branch Department of Treasury & Economics
G.A. Epp	Manager, Information Systems DCF Systems Limited
I.J. Ferguson	Computer Systems Consultant Computer Services Centre
W.R. Fowler	Director, Health Data Centre Health Insurance Registration Board
A.M. Gartshore	Deputy Registrar of Motor Vehicles Department of Transportation and Communications
S.J. Glasser	Manager, Research and Planning Education Data Centre
A.E. Goodwin	Director, Electronic Computing Branch Department of Transportation and Communications
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R.P. Lemay	Senior Systems Analyst Department of Revenue
W.F. Nuss	Management Services Officer Management Board Secretariat
J.A. Orr	Director, Systems Development Department of Municipal Affairs
N.J. Parker	Research Analyst Central Staff, C.O.G.P.
Z.R. Patterson	Director of Education Data Centre
D.W. Patterson	Director, Management Improvement Branch Computer Services Centre
W.W. Petryniak	Management Services Officer Management Board Secretariat
R.T. Reiman	Director, A.D.P. Standards Branch Management Board Secretariat
E.D. Schmid	Management Services Officer Management Board Secretariat
L.J. van Monsjou	Manager, Computer Services Centre
R.H. Westmore	Director, Records Services Branch Department of Tourism and Information
N. Yurchuk	Director, Systems and Programming Branch Department of Revenue

Advisory Committee

J.C. Davidson <i>Chairman</i>	President Confederation Life Association
Prof. J.W. Abrams	Industrial Engineering Department University of Toronto
M.F. Anderson	Catalogue Order and Data Processing Simpson-Sears Limited
Prof. J.W. Graham	Director, Computer Centre University of Waterloo
Dr. H.W. Henderson	Executive Director Mental Health Division Department of Health
P.J. Jeannot	Vice-President Computer and Systems Services Air Canada
Prof. C.E. Law	School of Business Queen's University
R.A. McDougall	Vice-President Organization, Research and Systems Bank of Montreal
J.K.A. Moore	Director, Computing Services Division Ontario Hydro
O.M. Schnick	Executive Director Economic and Statistical Services Department of Treasury and Economics
H.H. Walker	Deputy Minister Department of Colleges and Universities

